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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/551,867	04/18/2000	Shizuo Sumida	3411-4	2424

22204 7590 10/07/2005

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EXAMINER	
PHAN, THAI Q	
ART UNIT	**PAPER NUMBER**
2128	

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/551,867	SUMIDA ET AL.	
	Examiner	Art Unit	
	Thai Q. Phan	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04/18/2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to applicant's amendment filed on 06/23/2005. Claims 1-37 are pending in the Action.

Drawings

The drawings filed on 04/18/2000 are acceptable for examination.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As cited "estimated observation quantity" in the non-linear characteristic reproducing unit is unclear for what the non-linear characteristic reproducing unit performs. Estimate quantity and observation are different. Different unit is required to estimate a quantity or to perform observation process in order to reproduce the "cited estimated observation quantity". Applicant is required to specify a specific function for the reproducing unit in the claim to make it clear and precise.

The cited features of "divided or differentiated with an absolute value" in the claim is unclear for it stands for.

3. Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As cited "estimated observation quantity" in the logical decision unit is unclear for what the logical decision function does. Applicant is also required to specify a specific function for the logical decision unit in the claim to make it clear and readable.

The cited feature "impossible state" in the claim made the claim unclear for what it claims for. What is the impossible state? Does it relate to uncontrollable state? Why impossible state need for control.

4. Claims 29 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As cited "an estimated observation quantity" and "the received estimated observation quantity" in the non-linear model make the claim unclear. Estimation and observation are different processes. They are usually not related to each other.

As per claim 37, the cited "said linen" in the "slow change reproducing unit" is objected for typo error.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-28 and 33-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Barford et al, US patent no. 6,850,871 B1.

As per claim 1, Barford anticipates a method and system for characterizing for extraction of non-linear characteristic behavioral models from the time domain measurement with feature limitations very identical to the claimed invention. According to Barford, the method includes means and steps:

A state transformation unit for linear transforming the first state quantity to the second state quantity every sample time for processing (cols. 12-13, for example), and

Means for extracting or reproducing non-linear characteristic model and parameter transformation for the transformation unit at a subsequent sampling time in accordance with an estimated observation quantity at the subsequent sampling time of at least one state quantity of the first state quantity and the second state quantity or a state quantity derived from the one state quantity to set the determined transformation parameter to the state quantity (cols. 12-14, col. 17, line 57 to col. 23, line 22, for example).

As per claim 2, Barford anticipates the system including means to receive the estimated and observation (measurement) quantity and one or more variables as well.

Barford anticipates determining the transformation parameter in accordance with the estimated observation quantity and state variables (cols. 18-23).

As per claim 3, Barford anticipates step of normalizing state estimate value with observed quantity.

As per claim 4, Barford anticipates a state space estimation with claimed feature for parameter estimate.

As per claims 5-14, Barford anticipates a plurality of dynamic systems such as hydraulic system, mechanical system, etc. as claimed for the invention (cols. 2, 12, 18, for example).

As per claim 15, Barford anticipates a method and system for characterizing for extraction of non-linear characteristic behavioral models from the time domain measurement with feature limitations very identical to the claimed invention. According to Barford, the method includes means and steps:

A state transformation unit for linear transforming the first state quantity to the second state quantity every sample time for processing (cols. 12-13, for example), and

Means for extracting or reproducing non-linear characteristic model and parameter transformation for the transformation unit at a subsequent sampling time in accordance with an estimated observation quantity at the subsequent sampling time of at least one state quantity of the first state quantity and the second state quantity or a state quantity derived from the one state quantity to set the determined transformation parameter to the state quantity (cols. 12-14, col. 17, line 57 to col. 23, line 22, for example).

As per claim 16, Barford anticipates the system including means to receive the estimated observation quantity and one or more variables as well. Barford also anticipates a step of determining the transformation parameter in accordance with the estimated observation quantity and state variables as claimed (col. 7, lines 1-12, cols. 9-11, col. 21, lines 5-15).

As per claims 17 and 18, Barford anticipates the system control for controlling dynamical processes. These dynamical processes would include the claimed system including but not limited to a non-linear spring system, air spring system, link mechanism, Geneva control system, etc.

As per claim 19, Barford anticipates a method and system for characterizing for extraction of non-linear characteristic behavioral models from the time domain measurement with feature limitations very identical to the claimed invention. According to Barford, the method includes means and steps:

A state transformation unit for linear transforming the first state quantity to the second state quantity every sample time for processing (cols. 12-13, for example), and

Means for extracting or reproducing non-linear characteristic model and parameter transformation for the transformation unit at a subsequent sampling time in accordance with an estimated observation quantity at the subsequent sampling time of at least one state quantity of the first state quantity and the second state quantity or a state quantity derived from the one state quantity to set the determined transformation parameter to the state quantity (cols. 12-14, col. 17, line 57 to col. 23, line 22, for example).

As per claim 20, Barford anticipates a control system with non-linear behavior model to perform functions as claimed.

As per claims 21-26, Barford anticipates the system controller for controlling dynamical processes. These dynamical processes would include the claimed system such as non-linear spring system, air spring system, link mechanism, reset mechanism, braking system, etc.

As per claim 27, Barford anticipates a method and system for characterizing for extraction of non-linear characteristic behavioral models from the time domain measurement with feature limitations very identical to the claimed invention. According to Barford, the method includes means and steps:

A state transformation unit for linear transforming the first state quantity to the second state quantity every sample time for processing (cols. 12-13, for example), and

Means for extracting or reproducing non-linear characteristic model and parameter transformation for the transformation unit at a subsequent sampling time in accordance with an estimated observation quantity at the subsequent sampling time of at least one state quantity of the first state quantity and the second state quantity or a state quantity derived from the one state quantity to set the determined transformation parameter to the state quantity (cols. 12-14, col. 17, line 57 to col. 23, line 22, for example).

As per claim 28, Barford anticipates state variation, determining state value, state estimation for optimization (cols. 12-15).

As per claims 33-36, Barford anticipates a method and system for characterizing for extraction of non-linear characteristic behavioral models from the time domain measurement with feature limitations very identical to the claimed invention. According to Barford, the method includes means and steps:

A state transformation unit for linear transforming the first state quantity to the second state quantity every sample time for processing (cols. 12-13, for example), and

Means for extracting or reproducing non-linear characteristic model and parameter transformation for the transformation unit at a subsequent sampling time in accordance with an estimated observation quantity at the subsequent sampling time of at least one state quantity of the first state quantity and the second state quantity or a state quantity derived from the one state quantity to set the determined transformation parameter to the state quantity (cols. 12-14, col. 17, line 57 to col. 23, line 22, for example).

Response to Arguments

Applicant's arguments with respect to claims 1-28 and 33-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. US patent no. 5,153,923, issued to Matsuba et al, on Oct. 1992
2. US patent no. 5,268,834, issued to Sanner et al, on Dec. 1993
3. US patent no. 5,519,605, issued to Cawlfield, David, on May 1996
4. US patent no. 5,619,432, issued to Chandler, Larry, on Apr. 1997
5. US patent no. 5,652,713, issued to Chandler, Larry, on July 1997
6. US patent no. 6,453,308, issued to Zhao et al, on Sept. 2002
7. US patent no. 6,564,176, issued to Kadtke et al, on May 2003

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Thai Phan whose telephone number is 571-272-3783.

3. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jean Homere can be reached on 571-272-3780. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sept. 30, 2005

Thai Phan
Patent Examiner
Art Unit: 2128